

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Michael Striker on 07/13/2009.

The application has been amended as follows:

IN THE CLAIMS:

Claim 8, at line 30: insert --with a processor-- after "determining".

Allowable Subject Matter

2. The following is an examiner's statement of reasons for allowance.

Gotz (USPN. 5,612,906) discloses Process for the measurement of the absolute position of the movable, cyclic division mark carrier of an incremental position indicator or rotation indicator/resolver within and/or with regard to one of its divisional segments, periodically formed and/or delimited by the division marks on the carrier, with two scanning elements, stationarily arranged and addressing the division marks, which are

Art Unit: 2857

positioned at such a distance from one another along the length or periphery of the segment that they deliver two sine- and cosine-like measurement signals which are evaluated on the basis of the arctangent function for position determination, by utilizing the values or components of a parameter vector identifying the measurement process, which is continuously redetermined during the measurement operation according to preset optimization criteria, for correction of the evaluation for disturbances and inaccuracies in the position indicator [see Gotz: Abstract; col. 5, lines 10-45 and col. 6, lines 22-50].

Noto et al. (hereinafter "Noto") (USPN. 4,753,308) discloses an electro-motive power steering system includes a torque sensor for detecting a steering force exerted to a steering wheel, a motor controlled in accordance with the output of the torque sensor, a steering angle sensor for detecting a steering angle, acceleration/deceleration deciding circuit for deciding based on the outputs of the torque sensor and the steering angle sensor whether the steering of the steering wheel is accelerated or decelerated, and a function generator for generating a function of either one of acceleration or deceleration in accordance with the result of the decision by the acceleration/deceleration deciding circuit, wherein a steering assisting force corresponding to the acceleration or deceleration of the steering of the steering wheel is applied to the steering wheel [see Noto: Abstract; col. 3, line 34-col. 4, line 10].

Regarding claim 8, the closest prior art (Gotz and Noto) fails to anticipate or render obvious the combination wherein "in the compensation process, providing offset values (x_0, y_0) from a specified number (N of $J=1 \dots N$) of pairs of measured values (x_i, y_i) obtained by rotating a magnetic field, for the sinusoidal and cosinusoidal measurement signals (x_i, y_i) and correction parameters (m_1, m_2) by applying a least square of errors method and solving a linear system of equations; determining a corrected pair of measured values (x_i', y_i') from each pair of the measured values (x_i, y_i) in the correction process, whereby determining the corrected pair of the measured values (x_i', y_i') in the correction process based on the relationship $x_i' = x_i - x_0$ and $y_i' = m_1 + x_i' \cdot m_2 (y_i - y_0)$,

whereby determining the pair of measured values (x_i, y_i) in the compensation process located on ellipses and satisfying the following equation:

$$f(x, y) = w_1 \cdot x^2 + 2 \cdot w_2 \cdot x \cdot y + w_3 \cdot y^2 + 2 \cdot w_4 \cdot x + 2 \cdot w_5 \cdot y \pm 1,$$

whereby determining parameters of ellipses $(w_1 \dots w_5)$ using the least square of

errors (g) method, with
$$g = \sum_{i=1}^N f(x_i, y_i)^2 = \min;$$
 and determining with a processor an angle (α) to be measured from particular corrected pairs of the measured values (x_i', y_i') using an algorithm and thereby providing the correction of the sensor system" in combination with other limitations in the claims as defined by Applicant.

Claims 10, 11, and 15 depend from allowed claim 8 and therefore are also allowed.

Conclusion

3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PHUONG HUYNH whose telephone number is (571)272-2718. The examiner can normally be reached on M-F: 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ramos-Feliciano Eliseo can be reached on 571-272-7925. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/587,536
Art Unit: 2857

Page 6

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